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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *10 August 2007*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-7,9,11-15 and 18-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-7,9,11-15,18-32* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7-10-07 has been entered.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2.   This **Non-Final Office Action** is responsive to applicant's amendment filed 7-10-07. Applicant's amendment of 7-10-07 amended **Claims 1 and 26**. Currently **Claims 1-7, 9, 11-15 and 18-32** are pending.

Response to Arguments

3.   Applicant's arguments filed on 7-10-07 have been fully considered but they are

not persuasive.

4.   The applicant argues that the cited references fail to teach the amended

limitation of caching and tabulating votes in an object prior to writing into the database.

The examiner respectfully disagrees.

In further support of this argument, the applicant cites individual passages from

the cited Oracle 8i reference that suggests the teaching is opposite from the claimed

invention. To this the examiner would point out that the fact that Oracle teaches pulling

a copy from a database to write to it does not teach away from the claimed invention,

rather it supports the teaching of tabulating information in a cache prior to writing it to a

database. One of ordinary skill in the art would recognize that (1) performing operations

in a cache is faster than performing those operations in a database (2) the operations in

a cache require a mapping of where the data would go in the database once those

operations in the cache are performed.

An cache is nothing more than a different type of memory where operations can

be performed and results stored in a much faster manner than is would be performed in

the database memory. As evidenced by the Oracle teachings, this type of construct in

computing is old and well known in the art. For example, on page 2 of Oracle's

Reference A, paragraph 4 and 5, it is taught that Object Caching is a high performance

way of navigating and manipulating objects. It is further taught in paragraph 5 that the

objects mirror the parent database structure (e.g. where the language is "C", the structure in the Oracle objects mirrors this structure). (Another example of "caching" is the loading of programs from a CD or a hard drive into a PC's 'memory' to run. Both the hard drive and the PC memory (i.e. RAM memory) are places where data can be stored, but operations performed in RAM are done much faster than performing those operations by writing to a hard drive or CD.)

Mirroring or making a copy of a database structure in a cache is analogous to making a copy of something so that the copy can be modified without modifying the "master" copy. As taught by Oracle, this "caching" approach provides for high performance, since the objects are faster and more easily modified (e.g. operations performed, summing, subtracting).

Using the cache approach requires that the object has at least some reference to the "master" in the database, so that when the operations are done, and it is time to write the result, the program has a reference (i.e. an address, a variable name) in the database of where the result goes. One of ordinary skill in the art would recognize that the writing of data from the database into the cache would be the starting point – the objects, i.e. the data, would then be modified while in the cache prior to writing the final result into the database.

A person of ordinary skill in the art at the time of the invention would be well versed in the use of caches as a known technique for performing various manipulations prior to writing the result of those manipulations to the database.

The particular claimed feature would be obvious to a person of ordinary skill in

the art based on what is disclosed in the cited references. Bayer teaches that when a

person votes, that vote is tabulated into the database. Each vote results in a particular

database record being updated. However, Bayer does not address what is elsewhere

well known in the art about database caching, as is taught by Oracle. On page 2 of

Oracle Reference A, the database objects retrieved from the database are updated in

the cache. When the updating is completed (per a predefined time interval for updating

the actual database – see Reference A page 5 under "pin duration" – for specifying how

long the database objects for updating are held in the cache), the database is updated.

Thus, a combination of Bayer and Oracle suggests using a database object cached in

memory for counting voting totals before they are written to the actual database. This

technique is known to significantly improve speed and performance since the database

is not updated when every vote is cast, but rather when after a predefined period of time

the vote totals in the cache are then updated to the database. Since the cache is the

front end for what later happens in the database, the vote totals are cached and

tabulated in the cache prior to being written in the database. The database objects

loaded into the cache *prior* to the voting is simply the starting point for counting the

votes. The cache needs the latest copy of what is stored in the database itself prior to

performing the counting – this ensures consistency with the "master" version of what is

stored in the actual database so that the votes tabulated in the cache represent an

accurate total of all the votes.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 USC. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 1-7, 9, 11-15 and 18-32** are rejected under 35 USC. 103(a) as being

unpatentable over **Bayer** US Patent 6,311,190 in view of **Oracle 8i** and further in view

of **Blumberg** US 6,240,415.

Oracle 8i is described in the following two references:

"Programmatic Environments for Oracle Objects", Oracle 8i Application

Developer's Guide –Fundamentals, copyright 1999, Oracle Corporation, pp.1-18,

hereafter referred to as **Reference A**.

"Programmatic Environments", Oracle 8i Application Developer's Guide –

Fundamentals, copyright 1999, Oracle Corporation, pp.1-27, hereafter referred to as

Reference B.

Regarding **Claims 1 & 2**, Bayer teaches:

receiving votes at the server in response to the survey question (Figure 13

#98, votes received; column 2 line 39, server provides an addressable voting site); and

tabulating in memory the stored votes accumulated over a predefined time

interval to generate intermediate voting results. (column 17 line 63-65, survey

durations are predefined and are used to determine the generating of intermediate

voting results-see also column 18 line 35-38). Bayer teaches that each vote is

individually written to the database, so there is a record of each person voting.

    writing the intermediate voting results to the database (Column 3 line 7—line

12, when a person votes, the network server receives the answers and adds those

answers representing votes to records in the database (memory) tallying totals for each

response answered. Since the server performs these tasks every time a person votes,

it generates an intermediate voting result and writes it to the database.)

    computing <u>in real time</u> a final voting result to the survey question by

<u>continuously</u> tallying each of the intermediate voting results written in the

database (Figure 13 #98, votes received and results page constructed of final voting

result to the survey question). Bayer teaches that at the end of campaigns, the

intermediate results from various surveys are computed based on the intermediate

voting results (see column 18 line 17-21, surveys, i.e. intermediate voting results, are

tallied at the end of a campaign to compute a final voting result to the survey question).

    Column 1 line 19-24, viewers can immediately view their results (i.e. in real time)

after voting.

    Column 7 line 25-30, the Tally table continuously updates vote totals received

from voters.

    Bayer teaches the counting and tabulating of votes to determine the results of a

survey.

Bayer does not teach high density voting over a computer network using an object residing on a server that maintains persistent connections between the object and a database; caching the votes received in a memory cache using the object; using the cached votes in calculating a result.

However, the concept of using objects in a memory cache to provide a buffer to enable high performance access to a database is a well-known concept, as evidenced by Oracle 8i.

Specifically, Oracle 8i teaches the use of objects to:

providing an object on the server that maintains connections with the database.

Reference B page 2 paragraph 5 line 3-4, objects maintain connections between the copy in the cache and the corresponding database object--this database object is in memory on the server.

Caching the votes received in a memory cache for a predefined time interval using the live event object.

Reference A, page 2 paragraph 3 line 1, a client side object cache for caching objects in memory;

Reference A page 5 paragraph 2 line 1, when pinning an object, the duration an

object is pinned in memory, that is to have computations performed on the object, can

be specified the programmer. That is, the programmer can predefine the intervals in

which votes are tabulated in memory.

tabulating in memory <u>on the server</u> cached votes accumulated over the

predefined time interval to generate intermediate voting results;

Reference B page 8 paragraph 4, Oracle teaches running these objects on the

server, where this server is separate from the database server – see the Figure "OO4O

In-Process Automation Server".

Reference A page 2 paragraph 2 line 5, computations can be performed on each

object, including but not limited to a plurality of arithmetic operations of data, including

tabulation of data (i.e. votes);

Reference A page 4 paragraph 2 line 1-2, objects in memory are pinned for the

application to manipulate, including performing the computations mentioned above, and;

Reference A page 5 paragraph 2 line 1, when pinning an object, the duration an

object is pinned in memory, that is to have computations performed on the object, can

be specified the programmer. That is, the programmer can predefine the intervals in

which votes are tabulated in memory.

Reference A page 8 paragraph 2 line 1-4, before an object, including those which

tabulate votes, can be updated, it must be pinned in the cache, then, objects which are

marked as updated are flushed to the server when the transaction is committed.

Writing results, including intermediate results accumulated in memory (i.e.

a cache buffer) and each raw vote accumulated over the predefined time interval,

to the database at the predefined time interval.

Reference A page 2 paragraph 3 line 7, objects in the cache, including those which contain intermediate results as a result of calculations (see Reference A page 2 paragraph 2 line 5 as per above), can be written (i.e. flushed) to the database. This means that any calculation including counting (i.e. tabulating of vote results), can be tallied to the database when the predefined interval for updating the cache occurs – see Reference A page 5 paragraph 2 line 1 for a discussion about setting a predefined time interval for pinning objects in the cache.

Wherein data is cached and tabulated in the live event object prior to writing in the database

Reference A page 2 para 5, the changes made to the object copy in the cache occur prior to the object being updated into the database – Since Oracle is referencing transactions here, the transactions are interpreted by the examiner to include counting or summing data that is to be updated into the database.

Accordingly, a programmer using Oracle 8i can create an object cached in memory to tabulate data (i.e.votes) (objects in cached memory can have computations performed on them, as discussed above), specify intervals that the object will tabulate votes, and at the end of that interval, update the database using a transaction from that object.

Furthermore, Oracle 8i teaches that the use of cached objects provides high

performance access to a database (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bayer, as discussed above, with providing an object residing in memory on the server to cache votes and tabulate them in memory to generate intermediate voting results at specified intervals, as taught by Oracle 8i, because it would provide a high performance way to tabulate votes and write voting results to a database.

Bayer and Oracle 8i do not teach persistent connections used to connect an object application to a database.

The examiner takes Official Notice that persistent connections used in object-oriented programming to connect an object application to a database are well known in the art and are providing by most object programming languages, including Java and C++. Persistent connections enable an object-oriented application to always have a connection to a database.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the teachings of Bayer and Oracle 8i, with maintaining

persistent connections between the object and the database, for the purpose of

enabling high density interactive voting over a network that maintains persistent

connections to a voting database.

Bayer and Oracle 8i do not teach:

presenting a survey question and a plurality of responses to voters viewing

the live television broadcast event;

directing the voters to cast votes over the Internet at a web site of a

sponsor of the live television broadcast event;

presenting the final voting results to viewers on the live television

broadcast event prior to its conclusion.

Blumberg teaches:

presenting a survey question and a plurality of responses to voters viewing

the live television broadcast event;

column 5 line 48-52, 58, remote viewers can input their responses over the

internet while viewing a program on the television.

directing the voters to cast votes over the Internet at a web site of a

sponsor of the live television broadcast event;

column 8 line 21-23, the users can interact with the website – see also column 10

line 30-32, users can cast votes on which play should be made during sports television

broadcast – see also column 10 line 62-65.

presenting the final voting results to viewers on the live television

broadcast event prior to its conclusion.

Column 11 line 15-20, viewers of a sports game can vote on which play the team

should run (e.g. during a huddle). The results of their voting is displayed in the

subsequent play.

Blumberg teaches that his invention provides a way for viewers of a live

television event to participate in the event (column 3 line 20-25). Blumberg teaches that

his invention provides for viewers of a live television event to be more intimately

involved in the ongoing decisions during a game (column 11 line 29-31).

Blumberg addresses involving viewers in a live television broadcast event

through the use of voting over the internet. Blumberg utilizes a database along with a

webpage to interface with the live event viewers (column 9 line 45-50).

Bayer's invention addresses providing detailed surveys through the use of the

internet and a database to provide for detailed polling of users interested in participating

in surveys.

Oracle 8i addresses what is known in the art regarding the operation and

function of databases.

Because Blumberg, Bayer and Oracle 8i address the utilization of databases,

they are all analogous art.

Bayer teaches that an automated system for creating and administering surveys over the internet allows for users to vote and to see their results immediately, i.e. in real time.

Oracle 8i teaches using objects in connection with a database (including using a buffer) to support writing to a database. Oracle 8i teaches what is well known in the art regarding the use of a cache (i.e. a buffer) to provide for temporarily storing data (i.e. votes, since an electronic vote is nothing more than data).

As noted above, Blumberg teaches that receiving information into a database that can be used to provide direct feedback during a live television event engages the viewers by directly involving them in a decision making process during the event.

One of ordinary skill in the art at the time of the invention would modify the combined teachings of Bayer and Oracle 8i regarding providing for surveys and voting using a database and a cache, to include the step of providing feedback results during a live broadcast television event, as taught by Blumberg, because it would engage the viewers of the television event by involving them in the decision-making process of the live television event.

Regarding **Claim 3**, Bayer does not teach: **the object being resident in computer memory on the server**.

Oracle 81 teaches: **the object being resident in computer memory on the**

server (Reference B page 2 paragraph 5 line 3-4, objects maintain connections between the copy in the cache and the corresponding database object--this database object is in memory on the server.).

Oracle 8i teaches that the use of cached objects provides high performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bayer, as discussed above, with providing an object residing in memory on the server, as taught by Oracle 8i, because it would provide a high performance way to connect to a database.

Regarding **Claim 4**, Bayer does not teach: **having the object establish and maintain at least three persistent connections**.

The examiner takes Official Notice that it is established and well known in the art to program persistent connections in object-oriented applications, whether there be three or more persistent connections, depending on the requirements of the particular application. Programming languages such as Java and C++ have provisions for

establishing and maintaining persistent connections in the course of creating object-

oriented applications. These connections ensure that an application has a continuous

link to either a database or other related applications to ensure accessibility during the

course of program execution.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to modify the limitations of Claim 1, as taught by Bayer and Oracle 8i,

with having the object establish and maintain at least three persistent connections with

the database, for the purpose of ensuring continuous accessibility to the database

during the course of program execution.

Regarding **Claim 5**, Bayer teaches **raw votes** (Figure 3L, answerID field) **cast**

by each of the voters (column 9 line 46, each response from a voter is put in table).

Regarding **Claim 6**, Bayer does not teach: **the persistent connections**

including current voting results obtained using the cached votes.

Oracle 8i teaches: **obtaining results using information, including votes, that**

are in an object cache (Reference A page 2 paragraph 2 line 5, computations can be

performed on each object, including but not limited to a plurality of arithmetic operations

of data, including tabulation of data (i.e. votes);

Furthermore, Oracle 8i teaches that the use of cached objects provides high performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bayer, as discussed above, with tabulating votes in cached memory to obtain current voting results, as taught by Oracle 8i, because it would provide a high performance way to tabulate votes

Bayer and Oracle 8i do not teach persistent connections.

The examiner takes Official Notice that persistent connections used in object-oriented programming to connect an object application to a database are well known in the art and are providing by most object programming languages, including Java and C++. Persistent connections enable an object-oriented application to always have a connection to a database.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the limitations of Claim 4, as taught by Bayer and Oracle 8i, with using persistent connections to the database, for the purpose of improving

performance by performing data tabulation using an object cache with persistent

connections to the database.

Regarding **Claim 7**, Bayer teaches: **voting in response to the survey**

questions asked during an event (column 6 line 50-51, surveys are programmed to

start in advance of certain days-voting is in response to the questions posed during a

survey), **including a definition of the event** (column 6 line 33-34, voting campaign is

comprised of one or more surveys; column 6 line 55, survey start dates set in advance).

Regarding **Claim 9**, Bayer teaches: **tabulating the intermediate voting results**

to compute final voting results (column 17 line 18-20, for each set of responses,

percentages and histogram are calculated to compute final voting results from

intermediate results).

Regarding **Claim 10**, Bayer teaches: **tabulating the intermediate voting**

results continuously to compute final voting results in real time (Figure 13 #98,

receive votes; Figure 14 #124, votes added to totals, column 2 line 19-20, in real time

since voters can see results when they vote).

Regarding **Claim 11**, Bayer teaches: **creating the survey question** (column 2

line 60-61, question created based on campaign).

Regarding **Claim 12**, Bayer teaches: **defining an event in which the survey question is asked** (column 6 line 50-51, start date set for survey (i.e. event) in advance; column 6 line 53-54, surveys are set in queue order prior to offering to customers), **and checking a validity of the survey question and the event definition to ensure accuracy** (Figure 7 – add or modify campaign, Figure 8 – add or modify survey question, Figure 9 – add or modify survey).

Bayer teaches that the administrator can check to see if particular questions exist for a survey (column 13 line 21) and can review or modify the question if needed (column 13 line 37, review or modify page for changing question).

Regarding **Claim 13**, Bayer teaches: **determining whether there has been a new survey question created and, if so, then updating the database** (column 13 line 21-23, administrator checks if question exists; column 13 line 29, QuestionType table in database is updated by administrator).

Regarding **Claim 14**, all the limitations are addressed in Claim 1 above, except for: **wherein the object is a non-relational object.**

Bayer does not teach **wherein the object is a non-relational object.**

Oracle teaches **wherein the object is a non-relational object.**

Reference A page 1 paragraph 1 line 3-4, the objects in Oracle 8i are language based, e.g. based on Java, C++ etc.

Furthermore, Oracle 8i teaches that the use of cached, non-relational objects provides high performance access to a database (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bayer, as discussed above, with providing an object residing in memory on the server to cache votes and tabulate them in memory to generate intermediate voting results at specified intervals, as taught by Oracle 8i, because it would provide a high performance way to tabulate votes and write voting results to a database.

Regarding **Claim 15**, Bayer does not teach: **the object contains some of the voting data as well as procedures and instructions for manipulating at least some of the data**.

Oracle 8i teaches: **that the object contains some of the voting data** (Reference A page 2 paragraph 3 line 6, objects can be updated, i.e they contain data, including voting data) **and that the object contains procedures and instructions for manipulating data** (reference A page 2 paragraph 3 lines 2-7, Oracle 8i provides

support for navigational access of objects, including containing procedures and

instructions for creating, updating and deleting objects in the cache, i.e. data).

Oracle 8i teaches that the use of cached, non-relational objects provides high

performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and

storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Bayer, as discussed above, with the object contains

some of the voting data as well as procedures and instructions for manipulating at least

some of the data, as taught by Oracle 8i, because it would provide a high performance

way to tabulate votes and write voting results to a database.

Regarding **Claim 16**, Bayer teaches: **tabulating the final voting result using

the intermediate voting result** (Figure 13 #98, receive votes; Figure 14 #124, votes

added to totals, column 17 line 18-21, results calculated for each voter from

intermediate results).

Regarding **Claim 17**, Bayer teaches: **tabulating the final voting result in real

time** (Figure 13 #98, receive votes; Figure 14 #124, votes added to totals, column 17

line 18-21, results calculated for each voter from intermediate results in real time).

Regarding **Claims 18 and 19**, Bayer does not teach **one**, per Claim 18, or **three**, per Claim 19, **persistent connection(s) between the object and database that is maintained by the object**.

The examiner takes Official Notice that it is established and well known in the art to program persistent connections in object-oriented applications, whether there be three or more persistent connections, depending on the requirements of the particular application. Programming languages such as Java and C++ have provisions for establishing and maintaining persistent connections in the course of creating object-oriented applications. These connections ensure that an application has a continuous link to either a database or other related applications to ensure accessibility to the application or database during the course of program execution.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the limitations of Claim 14, as taught by Bayer and LOC, with having the object establish and maintain at least three persistent connections, for the purpose of ensuring continuous accessibility to the database during the course of program execution.

Regarding **Claim 20**, Bayer teaches: **an authoring system that enables a user**

to define an event (column 6 line 50-51, start date set for survey as part of campaign in

advance; column 6 line 53-54, surveys are set in queue order prior to offering to

customers) **and create polling questions associated with the event** (Figure 4 #52,

add/modify campaign; Figure 4 #56, add/modify question) **for distribution to the**

voters (Figure 2A, sample webpage).

Regarding **Claim 21**, Bayer teaches: **a staging component that copies the**

event definition and polling questions to the database (column 3 line 2-3, elements

of survey webpages, including questions, are stored in a database; Figure 16A,

campaign database table structure that defines campaigns and associated surveys;

column 3 line 3-5, administrator can modify/create campaign information, see also

Figure 4 #52).

Regarding **Claim 22**, all the limitations are addressed in Claim 1 above, except

for: **the intermediate voting results are used to compute the final voting results in**

real time.

Bayer teaches:

the intermediate voting results are used to compute the final voting results

in real time.

Column 17 line 62-column 18 line 2, a voter can select to view the final voting

results of any previous voting campaign. This is done by specifying a date range. Once

the voter enters their selection, the result is returned in real time over the on-line

networked interface taught by Bayer.

Regarding **Claim 23**, Bayer does not teach: **a vote cache that receives and caches at least some of the voting data from the object**.

Oracle 8i teaches: **a vote cache that receives and caches at least some of the voting data from the object** (reference A page 2 paragraph 3 line 6, objects in cache can be updated, including for receiving data (i.e. votes) –the cache the objects are in provides memory for storing the vote data. The objects in cache memory that Oracle 8i teaches contain memory for receiving and storing data as well as instructions for manipulating that data.)

Oracle 8i teaches that the use of cached, non-relational objects provides high performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bayer, as discussed above, with a vote cache that receives and caches at least some of the voting data from the object, as taught by Oracle 8i, because it would provide a high performance way to tabulate votes and write voting results to a database.

Regarding **Claim 24**, Bayer does not teach: **a processor that tabulates the cached voting data from the vote cache to generate intermediate voting results**.

Oracle 8i teaches: **a processor that tabulates the cached voting data from the vote cache to generate intermediate voting results** (Reference A page 1 paragraph 2 line 1-2, Oracle runs on a server that inherently contains a processor for tabulating and operating on the objects in the cache, including data for voting – see page 2 paragraph 3 line 6).

Oracle 8i teaches that the use of cached, non-relational objects provides high performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bayer, as discussed above, with a processor that tabulates the cached voting data from the vote cache to generate intermediate voting results, as taught by Oracle 8i, because it would provide a high performance way to tabulate votes and write voting results to a database.

Regarding **Claim 25**, Bayer teaches: **tabulating the intermediate voting**

results continuously to compute final voting results in real time (Figure 13 #98,

receive votes; Figure 14 #124, votes added to totals, column 2 line 19-20, in real time

since votes can see results when they vote).

Claims 26 and 27 recite limitations similar to those cited in the rejection of

Claims 1, 14 and 15 above, and are therefore rejected under the same rationale.

Claim 28 recites limitations similar to those cited in the rejection of **Claim 23**

above, and is therefore rejected under the same rationale.

Regarding **Claim 29**, Bayer teaches:

writing each of the received votes to the database to allow cross-tabulation

of demographic data.

Figure 14 #126, a country summary is build to allow cross-tabulation of data from

different countries (i.e. demographic data).

Regarding **Claim 30**, Bayer does not teach:

wherein the predefined time interval is approximately fifteen seconds.

Oracle 8i teaches:

wherein the predefined time interval is approximately fifteen seconds.

Reference A page 5 paragraph 2 line 1, time durations for pinning objects in

memory can be specified in a predetermined way, including for fifteen seconds. The

choice of 15 seconds is a design choice and is anticipated by the functionality provided

by Oracle 8i.

Oracle 8i teaches that the use of cached, non-relational objects provides high

performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and

storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Bayer, as discussed above, with wherein the

predefined time interval is approximately fifteen seconds, as taught by Oracle 8i,

because it would provide a high performance way to tabulate votes and write voting

results to a database.

Regarding **Claim 31**, Bayer teaches:

tabulating in memory a plurality of the intermediate voting results written to

the database such that the final voting results are updated;

column 30 line 57-60, voting data is stored in memory as voters cast votes, i.e.

the system tabulates in memory a plurality of the intermediate voting results such that

the final voting results are updated.

and writing the updated final voting results to the database.

column 30 line 64-67, the final voting results are added (i.e. written) to the database.

Regarding **Claim 32**, Bayer does not teach:

further comprising updating the final voting results approximately every ten seconds.

Oracle teaches:

further comprising updating the final voting results approximately every ten seconds.

Reference A page 5 paragraph 2 line 1, time durations for pinning objects in memory can be specified in a predetermined way, including for ten seconds. The choice of 10 seconds is a design choice and is anticipated by the functionality provided by Oracle 8i.

Oracle 8i teaches that the use of cached, non-relational objects provides high performance access (Reference A Page 2 paragraph 4 line 1-2).

Both Bayer and Oracle 8i address utilizing computers to handle manipulating and storing information on databases, and thus both are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the teachings of Bayer, as discussed above, with wherein the predefined time interval for updating the final voting results is approximately ten seconds, as taught by Oracle 8i, because it would provide a high performance way to tabulate votes and write voting results to a database.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

        Barish, Greg; Obraczka, Katia; "World Wide Web Caching: Trends and Techniques", © 2000 IEEE, May 2000, IEEE Communication Magazine, pp.178-185.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is (571) 272-6881. The examiner can normally be reached on Monday-Friday, 8:00AM - 6:00PM.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

        Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.
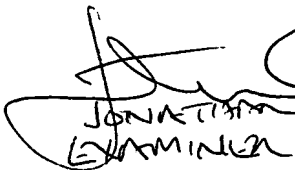
Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free).

JGS
10-9-2007

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